Sanitation Monitoring in Nepal

ADB TA -9897

Accelerating Sanitation for All in Asia and the Pacific – Sanitation Services Assessment

October 19, 2022

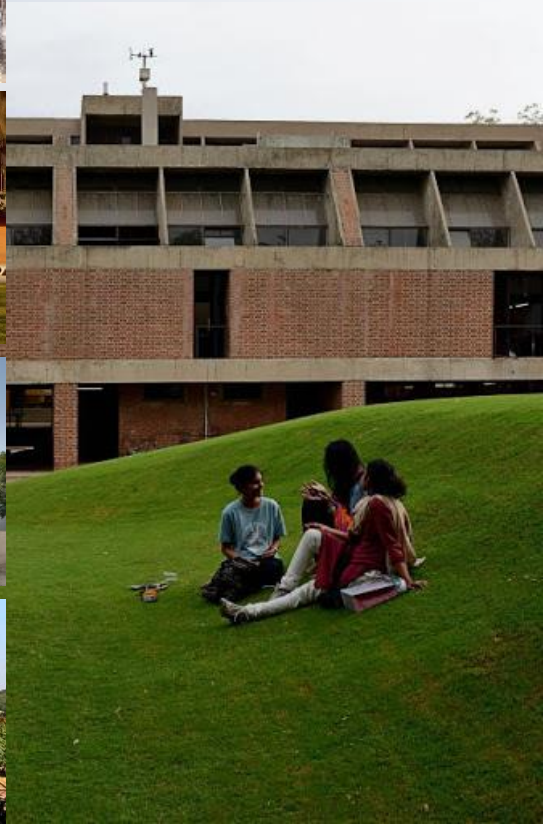
CWAS CENTER FOR WATER AND SANITATION | CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION | CEPT UNIVERSITY

About CWAS

CEPT University's core focus is human habitat. Through its education, research and advisory activities, it strives to improve the impact of habitat professions in enriching the lives of people in India's villages, towns and cities.

CEPT Research and Development Foundation (CRDF) has been established by the University to manage their research and capacity building activities. There are nine domain-focused centers in the CRDF. The Center for Water and Sanitation (CWAS) is among the first center to be established.

CWAS began its work in 2009 with focus on improving water and sanitation services in India. It carries out activities related to action research and capacity building – working closely with city and state governments, enabling them to improve delivery of services. CWAS is closely engaged with Faculty of Planning at CEPT University. CWAS team teach and guide students of Faculty of Planning.



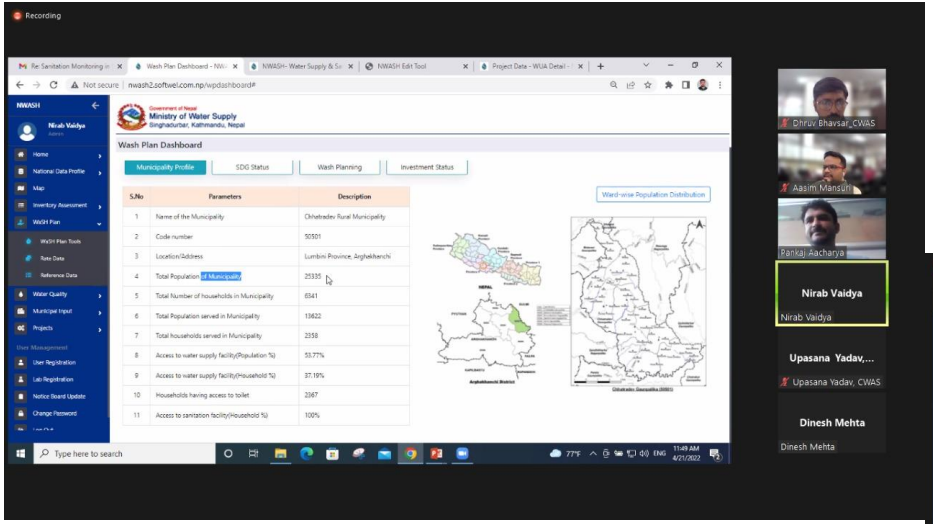
Project scope and key objectives

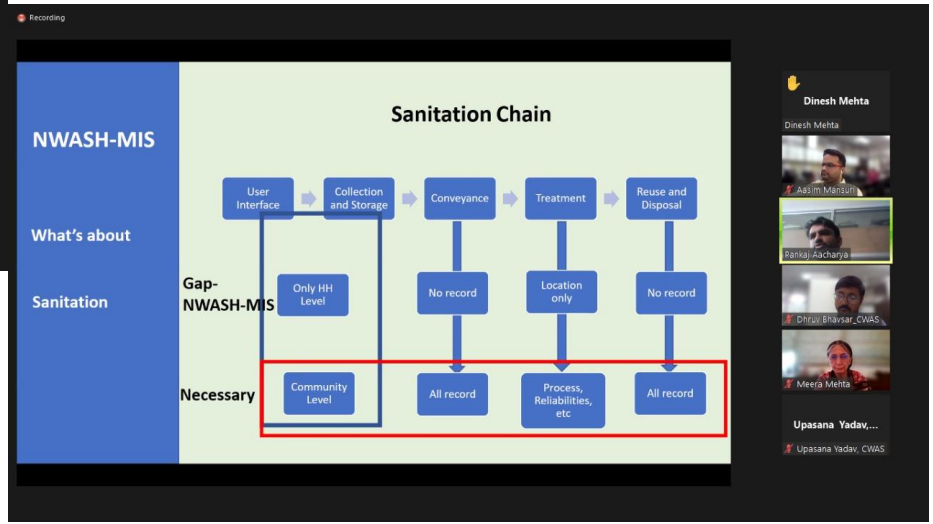
1. Desk Review of **Institutional structures** in Nepal for urban sanitation
    - Mapping of existing institutional structure for sanitation service delivery and possible changes due to upcoming Water Act of Nepal
    - Role of sanitation service providers in Nepal that work towards inclusive sanitation planning, investment, and management

2. **Assessment of existing urban sanitation monitoring system**
    - What data is being collected/ how is it being collected and who is responsible for tracking the sanitation monitoring in Nepal
    - Identify missing data gaps and challenges in existing monitoring arrangements

3. Develop a **roadmap/ recommendation plan** for consultation on streamlining data collection and strengthening data monitoring platform for CWIS outcomes

Meeting with NWASH MIS officials, DWSSM





Meeting with Section Chief, National Management of Information Project/ Institutional Support and Service Advisory Unit, DWSSM, MoWS, GoN

- Discussed the key observations based on the review of existing NWASH M&E framework with lenses of sanitation service delivery across service chain with a major focus on CWIS principles.

Overview of urban sanitation situation and institutions

Nepal has made significant progress in providing access to sanitation services

Nepal has made impressive progress in eliminating open defecation and was declared ODF in 2019. However, there is a need to focus on the entire sanitation service chain for achieving Citywide Inclusive Sanitation (CWIS) and SDG 6.2

Sanitation Situation in Nepal

Access

- 97% of the total population have access to basic sanitation facilities

(Data of DWSS (2018))

Collection

- 83% of Nepal's households are dependent on on-site sanitation system

MICS (2020)

- 11% households have access to sewered sanitation mainly located in Kathmandu valley

Conveyance

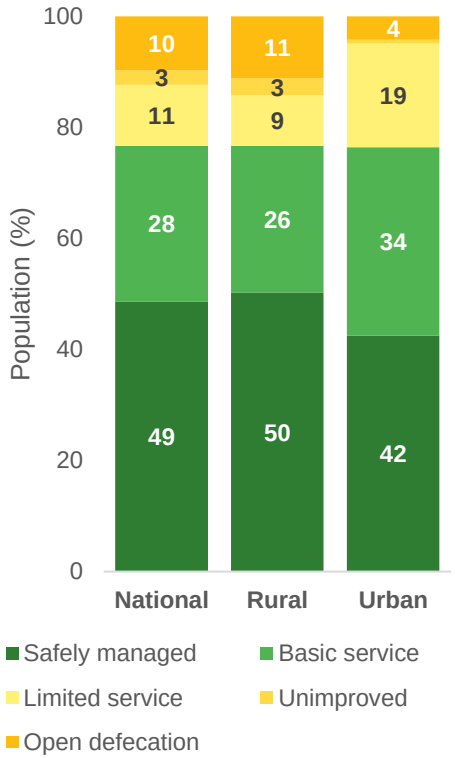
- Emptying services are provided by informal, unlicensed manual or mechanical emptiers, or occasionally by CBOs or municipalities
- There are limited examples of formal engagement and dialogue between local authorities and emptying service providers

Treatment

- Only Kathmandu valley areas has 4 wastewater treatment facility
- Only 5 FSTPs in Nepal in Pokhra, Gulariya, Mahalaxmi, Birendranagar and Mechinagar

Disposal / Reuse

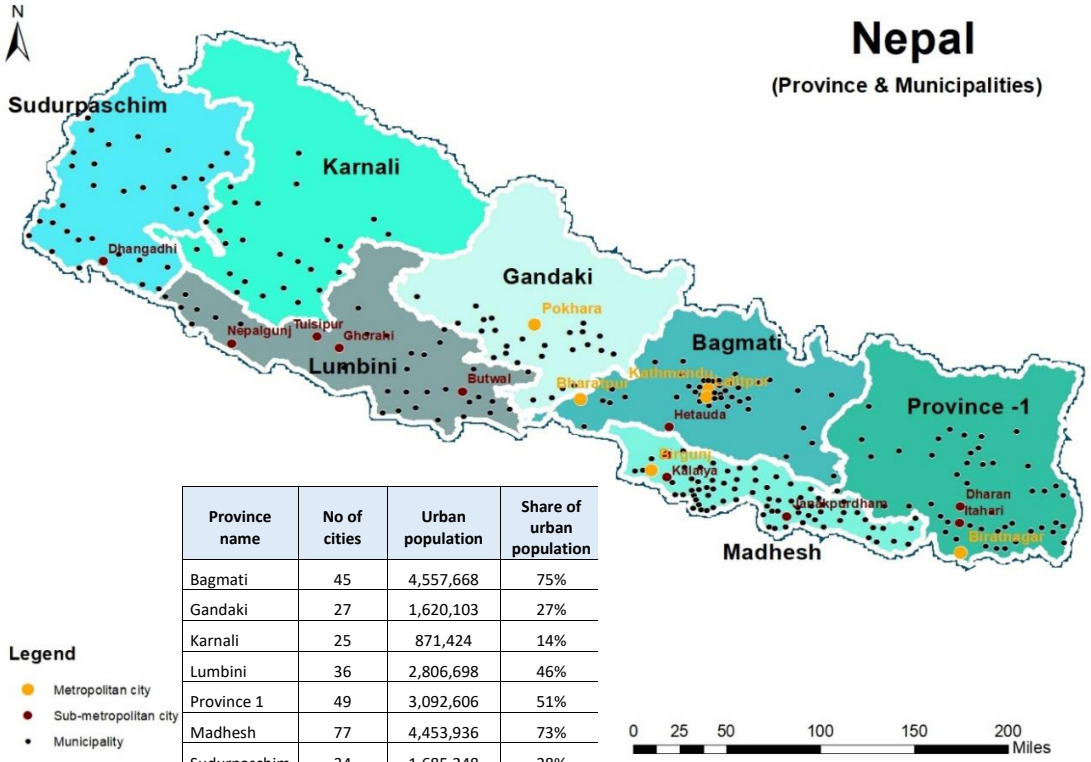
- Most urban areas discharge used water and FS without treatment
- No reuse practice



As per JMP (2020), 42% population using improved sanitation facilities with 35% in-situ disposed off the faecal waste and 7% connected to wastewater treatment.

Source: DWSSM (2018); MICS (2020);JMP 2020

Urban population share increased from 17% (Census 2011) to 65% (Census 2021) after promulgation of new constitution 2015



Province name	No of cities	Urban population	Share of urban population
Bagmati	45	4,557,668	75%
Gandaki	27	1,620,103	27%
Karnali	25	871,424	14%
Lumbini	36	2,806,698	46%
Province 1	49	3,092,606	51%
Madhesh	77	4,453,936	73%
Sudurpaschim	34	1,685,248	28%
Nepal	**293**	**19,087,683**	**65%**

- Total Population: **29 million**
- Urban Population: **19 million**

- Three ecological zones of Nepal: Mountain, Hills and Terai. **53% of Nepal's population resides in Terai**.

- Administered by **7 provinces** and **77 districts**

- As per recommendation of restructuring of Local Government System:
  - **Nos. of local governments: 753**
  - Nos. of rural governments: 460
  - **Nos. of urban governments: 293**

    - Metropolitan cities: 6
    - Sub-metropolitan cities: 11
    - Municipalities: 276

Source: Census 2021, CBS, GoN

Citizens have constitutional right to access to safe water and sanitation

- **The Constitution of Nepal (2015), Article 35 recognizes citizens' right of access to safe water and sanitation services.** In addition, Article 30 recognizes that: (1) every person shall have the right to live in a healthy and clean environment, (2) and the victim of environment pollution and degradation shall have the right to be compensated by the pollutant as provided for by the law.

- **As per the new constitution, Water and Sanitation is a concurrent function between federal, provincial and local government based on the level of jurisdiction**

- The new constitution 2015 was **designed to make Local Government System (LGS) more responsive and participatory**.

Source: Government of Nepal (2015) Nepal's Constitution of 2015.

Key actors for sanitation service delivery in Nepal

- **Ministry of Water Supply (MoWS)** is the lead ministry responsible for WASH sector development. The **Department of Water Supply and Sewerage Management (DWSSM)** under the MoWS, is the lead implementing agency for water and sanitation services.

- **Ministry of Physical Infrastructure and Development (MoPID)** is the line ministry that supports water supply and sanitation services.

- In Bagmati province, **Kathmandu Valley Water Supply Management Board (KVWSMB)** is responsible for **wastewater management, operation and treatment**.

- As per the Local Government Operations Act (2017), **primary responsibility for local sanitation services lies with the municipalities**. There are 293 urban local governments. Metropolitan cities: 6, Sub-metropolitan cities: 11, Municipalities: 276

Source: UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) (2018) Sanitation Policy and Planning Framework Case Study for Discussion. WHO.

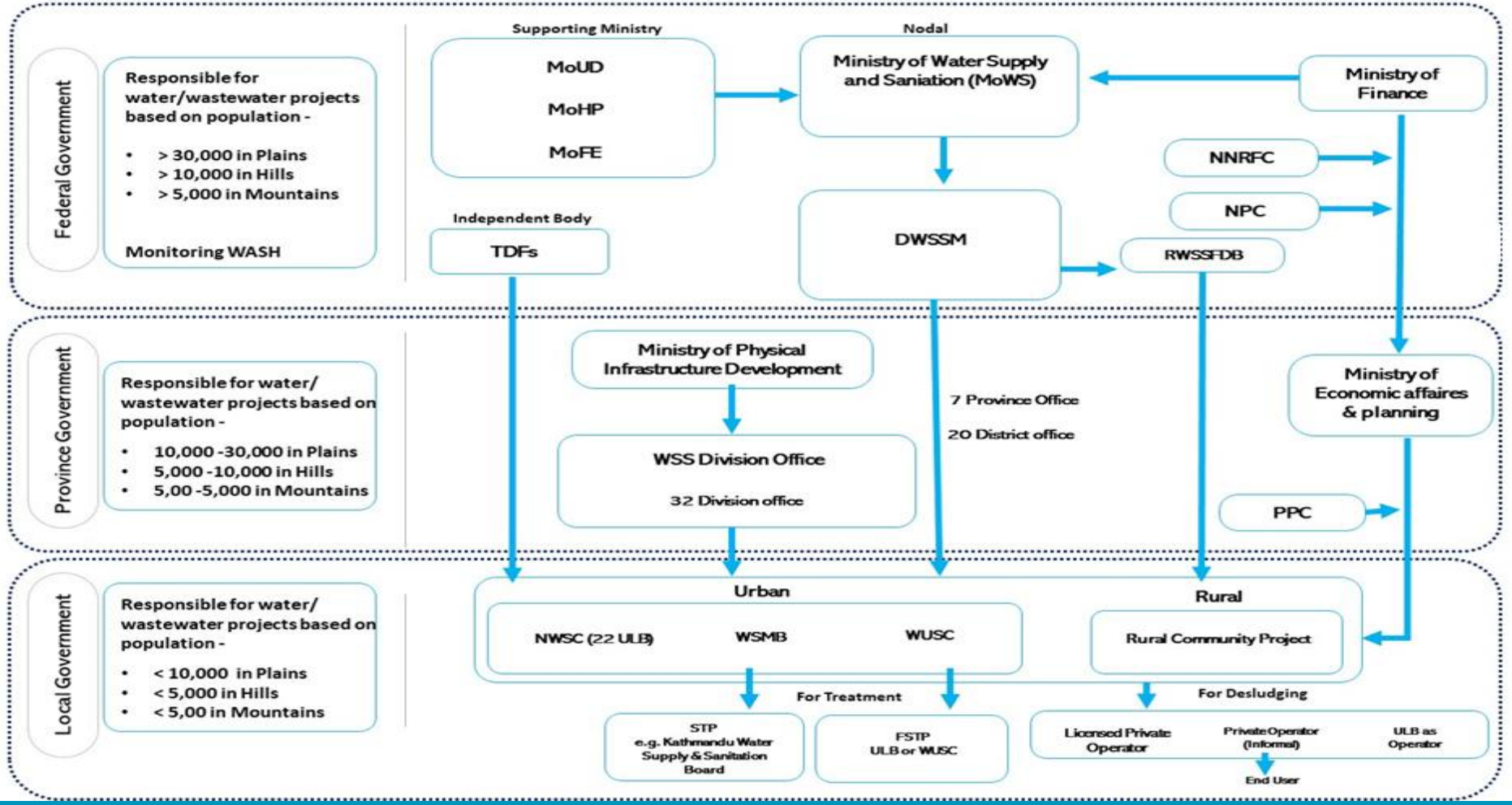
Sanitation policy, planning and enabling framework

- **Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas of Nepal (2017):** This framework focuses on the entire sanitation service chain—containment, emptying, transportation, treatment, and end use. **It envisages municipalities as key responsible agencies.** However, currently only selected municipalities provide emptying and treatment services

- **A new water supply and sanitation bill (draft in parliament) suggests the role of local government** for sanitation promotion, menstrual hygiene management, toilet services, collection, transportation and safe management of fecal sludge. **It recommends that municipal governments will take the responsibility** of water and sanitation by repeal of the WSMB Act 2063, the WTFC Act 2063 and the NWSC Act 2023.

- **The Draft new water supply and sanitation policy, 2021** suggests the system classification and role delineation for sanitation service delivery of various level of government along with indicative sanitation service levels with indicators.

Institutional arrangements for WASH – National to Local



System classification and role delineation as per Draft National Water Supply and Sanitation policy, 2021

System Classification			Minimum Key HR Required	Regulation & Surveillance	Financing & Construction	Service Delivery	
Size	Sanitation					Provision	Production
Small	Sanitation	On site Sanitation, Solid waste management	WSST	Federal and or Provincial Government	User +/ community+ / other	User +/ community + / other	User +/ community+ / other
Medium	Sanitation	Typically, Septage and Solid waste Management	Sub- Engineer	Federal and or Provincial Government	Provincial +/ Local Govt +/ Community +/ Private Sector	Local Govt	Users Committee/ Utility Manager
Large *	Sanitation	Typically, Septage and/ or FSM or Wastewater Management	WASH Engineer + finance & admin staff	Federal and or Provincial Government	Federal +/ Provincial Govt +/ Community +/ Private	Local Govt	Utility Manager
		Solid waste Management	Civil Engineer		Federal +/ Provincial +/ Local Govt +/ Private	Local Govt	Municipal Authority / Utility Manager
Mega *	Sanitation	Typically, Septage/ FSM and/ or Wastewater Management	WASH Engineer + finance & admin staff	Federal and or Provincial Government	Federal +/ Provincial Govt +/ Community +/ Private	Local Govt	Utility Manager
		Solid waste Management	Civil Engineer		Federal +/ Provincial +/ Local Govt +/ Private	Local Govt	Municipal Authority / Utility Manager

Source: Draft National Water Supply and Sanitation Policy, 2021

Key challenges in context of Draft Drinking Water and Sanitation Bill

- Envisaged system classification and role delineation of level of governments for sanitation sector development need to be properly aligned

- Potential role of federal, state and local governments in creating sanitation infrastructure and O&M of this infrastructure needs to be properly identified. Role of private sector players also needs to be mentioned.

- In smaller municipalities, role of WSUCs and local governments may need to be clearly delineated. Details of the role of Municipal WASH Units, WSUCs and municipal WASH coordination committee are required.

- Differences in institutional arrangements between large and small municipalities / sewerage versus onsite systems need to be specified

WASH / Sanitation Monitoring

WASH Sector Monitoring in Nepal

- MoWS is the responsible ministry to establish and track water and sanitation service delivery. DWSSM is the nodal department responsible for monitoring and tracking WASH sector development.
- NWASH MIS developed in 2018 by the MoWS is the main functional monitoring & evaluation (M&E) framework for WASH in Nepal. Its key objective of the NWASH system is to fulfil the M&E needs as envisaged by the WASH sector in Nepal Water supply, Sanitation and Hygiene Sector Development Plan (WaSH SDP).
- The NWASH M&E framework was initiated with a major focus on reporting functionality and sustainability of water supply schemes.
- Access to sanitation related aspects have been added only recently in this M&E framework.

Source: M&E Framework for water supply system functionality and sustainability available at https://nwash2.softwel.com.np/Documents

There have been many efforts to monitor the WASH Sector in Nepal over the years. Currently, NWASH, which was introduced in 2018 is being used.

Functional

2006

Designing the Nepal RWSS Sector M&E/MIS/DSS

Implemented by - World bank & MoPPW

To strengthen the RWSS M&E Unit

"DFID" or "Icon" report

Implemented by - MoPPW

Monitoring and evaluating the RWSS sector. It formed the basis for establishing a functional M&E unit within the MoPPW

Discontinued

Lack of ownership & prioritization. lack of capacity among WSSDOs. Improper clarity of roles and responsibility ultimately led to the underutilization of the platform.

2013 - 2014

Water Service Providers data book

Implemented by – SEIU & MoWS

Assessment and building of operational and institutional capacity for effective water supply services

Held once 2013-14

Lack of monitoring infrastructure and capacity on ground absence of well documented MIS

2014

National Management and Information Project (NMIP)

Implemented by – DWSSM

To fulfil the M&E needs as envisaged by the Nepal water supply, sanitation and hygiene sector development plan. Applied primarily for the functionality of water systems

From 2018

NWASH

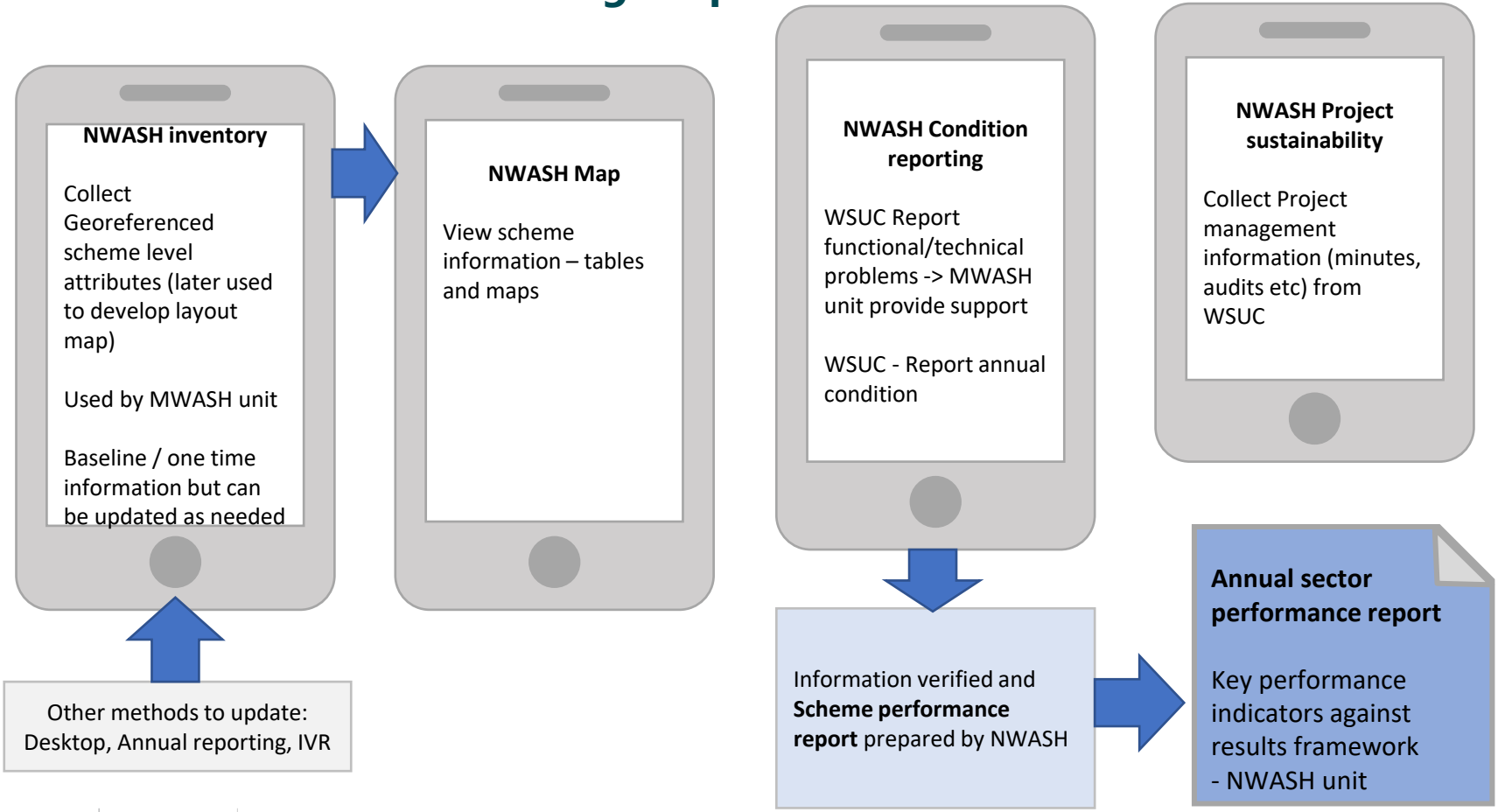
The key objective of the NWASH system is to fulfil the M&E needs as envisaged by the WASH sector in Nepal Water supply, Sanitation and Hygiene sector development plan (WaSH SDP)

Moving from paper based to digital system

The information was manually uploaded/provided with significant human errors. WASH information/data were not updated regularly with lack of a consistent and reliable sources. To address these challenges, NWASH as a digital tool is introduced for WASH monitoring in Nepal.

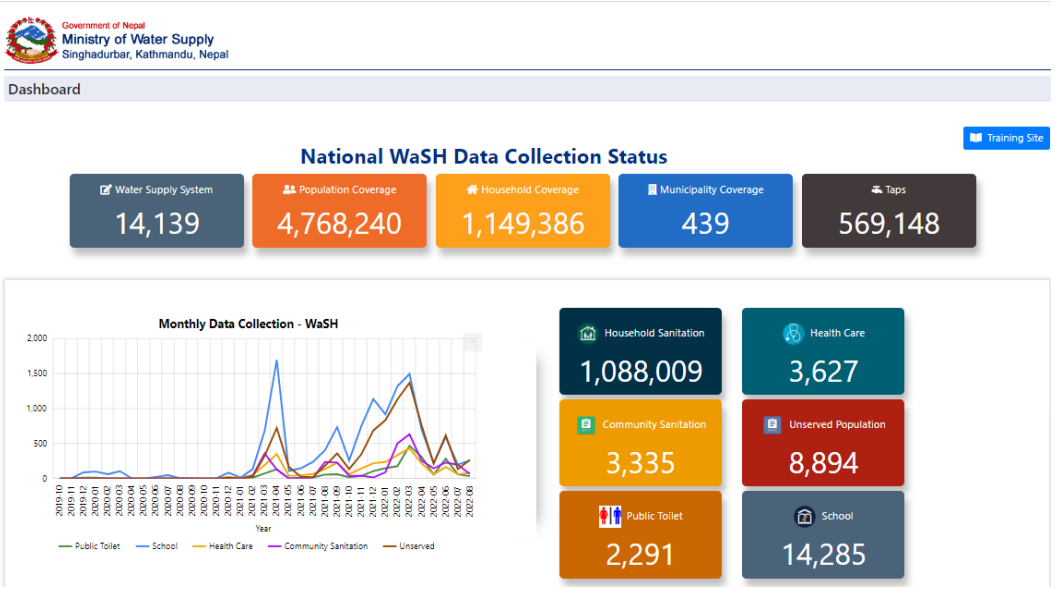
Source: M&E Framework for water supply system functionality and sustainability available at https://nwash2.softwel.com.np/Documents

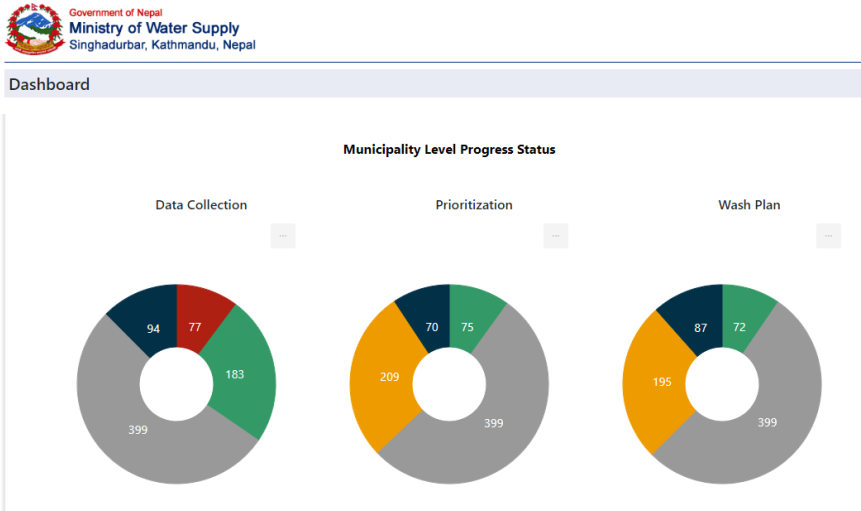
NWASH – A web based digital platform



Source: M&E Framework for water supply system functionality and sustainability available at https://nwash2.softwel.com.np/Documents

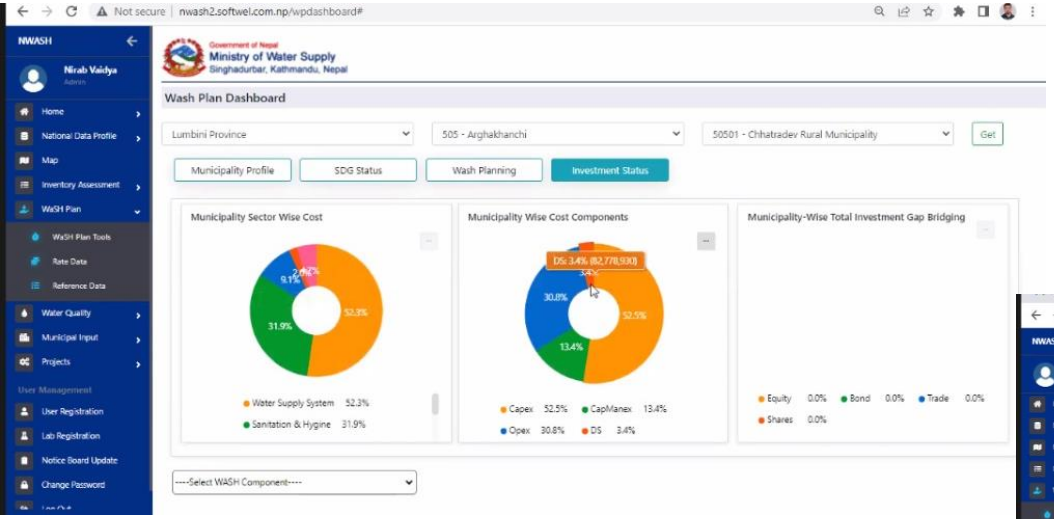
NWASH – Dashboard and Reports (1/2)

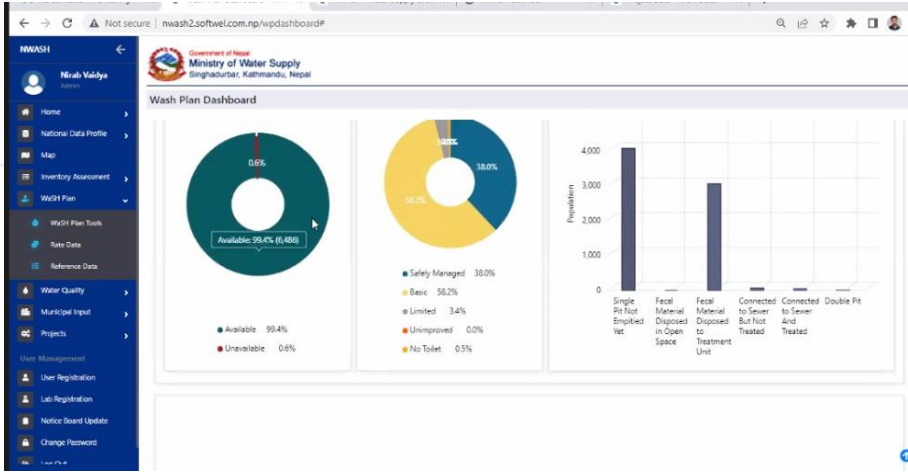




Source: https://nwash2.softwel.com.np/

NWASH – Dashboard and Reports (2/2)





Source: https://nwash2.softwel.com.np/

Key observations on NWASH framework (1/3)

- Current monitoring system focuses mainly on functionality and sustainability of water supply system. Sanitation related information is being collected for baseline data creation for developing WASH plan. **City level sanitation status is derived based on 10% household surveys samples**.

- **Annual updating of information for urban sanitation is not envisaged as of now**, whereas water supply related information is updated on an annual basis by WSUCs.

- Access to household sanitation, community sanitation and sanitation in schools/ public health care facilities related data points are being captured. **Information/data points are not available/ for conveyance, collection, transport and treatment of faecal waste/ wastewater.**

Key observations on NWASH framework (2/3)

- A few local governments also provide desludging and treatment services for fecal waste/ wastewater. However, currently, **NWASH does not capture operations/performance related information for desludging and treatment.** For treatment facilities, only asset related information is being captured.
- **Information** on **private desludging service providers and desludging practices are not available** at national, province or city levels.
- There may have been delays in baseline data collection process due to: a**) lack of capacity at local government level, b) network connectivity issues, and c) recent changes in mandates/roles and responsibilities for WSUCs and municipal WASH units**

Key observations on NWASH framework 3/3

- Current NWASH dashboard focuses on data collection progress. NWASH MIS indicates that **24% local governments have completed data collection** and **only 9% have completed WASH plan**

- More information and analysis related to **Citywide Inclusive sanitation** will also need to be added.

- It would also be useful to define and add details of **specific service indicators** and their use of data and analysis for decision making.

These observations have been ratified during the field visits . . . (1/2)






Charali WUSC


Kakarbhitta WUSC

Discussions around data reporting and monitoring on NWASH and co-ordination with the Municipality

These observations have been ratified during the field visits . . . (2/2)

Dhulikhel Municipality and WUSC

Discussions around roles and responsibilities of Municipality in WASH service delivery and NWASH monitoring

Recommendations to strengthen Sanitation monitoring in NWASH

Recommendations to strengthen Sanitation monitoring in NWASH

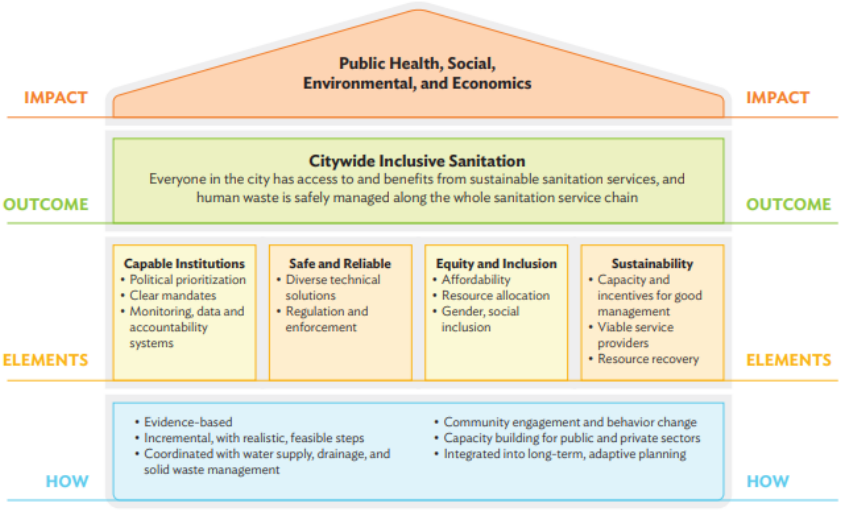
1. **Need for a nationally agreed set of key performance indicators** for Sanitation Service Delivery at the level of local government units (e.g. Service Level Benchmarks for urban services in India). There is a **need to identify data required for key aspects of the full sanitation service chain –** such as access to toilets, ODF, containment, desludging, sewerage, treatment adequacy, inclusion aspects etc.

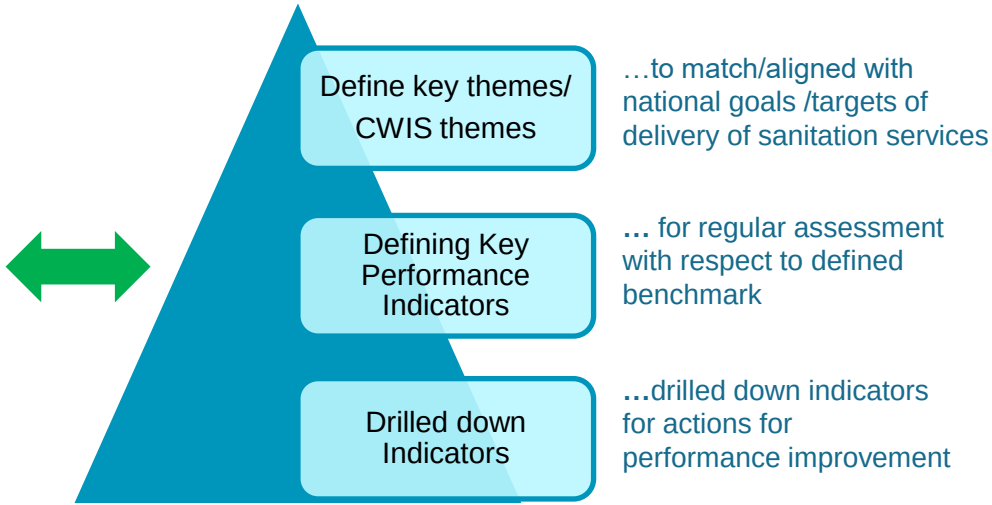
2. **Measures are needed to encourage institutionalization of local level sanitation monitoring that ensure full coverage across Nepal**. **Explore appropriate incentives** for local governments for regular WASH monitoring and reporting – fiscal incentives, recognition etc

3. **Need for reporting progress at the local government and provincial levels -** this is critical to track progress over time

1: Nationally agreed set of key performance indicators

- **NWASH attempts to aligned with SDG indicator 6.2 but derive based on sample HHs survey**
- **Indicator framework suits to the local context and aligned with the CWIS principles**
- **Focus on access and coverage, efficiency, equity and inclusion, service level quality and reliability, sustainability and functionality and on-site sanitation**
- **Framework should enable to assess the city level performance / tracks the service level improvement over time**





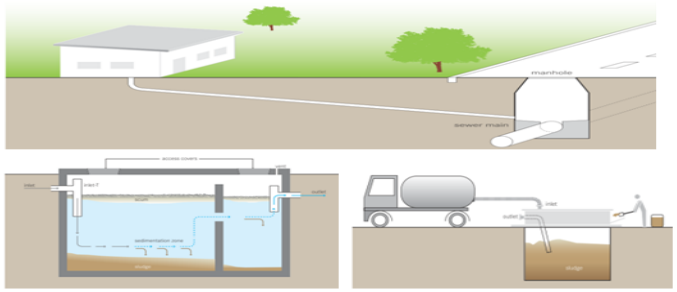
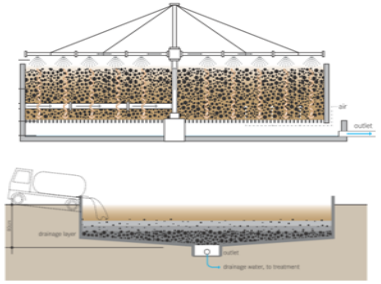
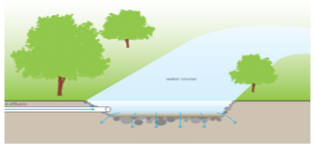
Source: Asian Development Bank.

Draft National Water Supply and Sanitation Policy, 2021 attempted to define Sanitation Service Levels in alignment of SDG ladder, but lacks actionable indicator framework

Service Level	Accessibility	Type of Facilities/ Interface	Use	Reliability	Environmental Protection
Improved service	Each family dwelling has one or more toilets in the compound; Easy access for all family dwellings	Platform with Impermeable slab separating faeces from users	Facilities used by all household members	Routine O&M (including pit emptying) service requiring minimal effort; Evidence of care and cleaning of toilet	Non problematic environmental impact/ Safe disposal (preferably re- use of safe by- products)
	Each public place or institution has adequate number of toilets; Comfortable access for all	Child, Gender and Disabled friendly; Platform with Impermeable slab separating faeces from users	Facilities available for use by all	Routine O&M (including pit emptying) service requiring minimal effort; Evidence of care and cleaning of toilet; (Linkage with other business opportunities for sustainable O&M of public toilets)	
Basic service	Each family dwelling has a toilet in the compound; Easy access for family dwellings	Platform with Impermeable slab separating faeces from users	Facilities used by all household members	Evidence of care and cleaning of toilet; Unreliable O&M (including pit emptying).	Non problematic environmental impact/ Safe disposal
Limited 'service'	Shared Toilet, Toilet at distance more than 10m ; Seasonal access	Platform without impermeable slab separating faeces from users	Insufficient use	No O&M (e.g. pit emptying) taking place and no evidence of cleaning or care for the toilet	Environmental pollution increasing with increased population density
No service	–	**No separation between user and faeces, i.e. open defecation**	**No or insufficient use**	**No O&M (e.g. pit emptying) taking place and no evidence of cleaning or care for the toilet**	Significant environmental pollution; increasing with increased population density

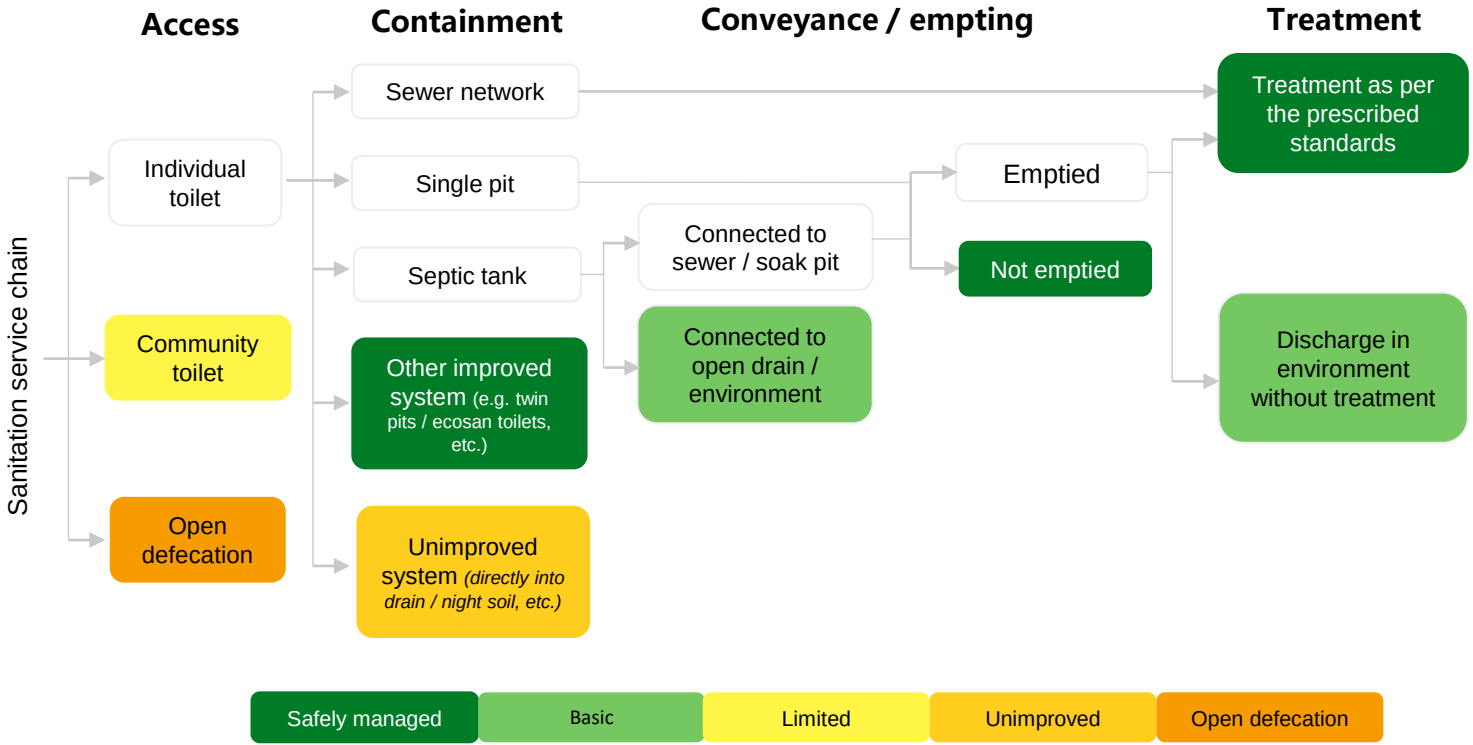
Source: Draft National Water Supply and Sanitation Policy, 2021

Indicative indicator framework for citywide assessment of sanitation service delivery including on-site sanitation

User interface	Collection	Conveyance	Treatment	Recycle & Reuse
				

1. Coverage of toilets	**3. Collection efficiency of sanitation system**	**4. Adequacy of treatment capacity of sanitation system**	**6. Extent of reuse and recycling in sanitation system**
2. Coverage of adequate sanitation systems		**5. Quality of treatment of sanitation system**	
• Households with individual toilets either connected with Sewerage system / Septic tank / Single pit or Other safe system like twin pits, eco toilets, etc. • Households dependent on functional community toilets • Households with toilets connected to unsafe system like pit without slab, night soil disposal etc	• % HH excreta waste transported through piped system and treated at sewage treatment plant • % HH excreta emptied from septic tank*/pit using mechanised means, transported and treated at FSTP/ STP • % HH excreta not emptied from septic tank*/ pit and contained in the tank / pit • % HH excreta contained and treated onsite	• % of sewage treated at treatment plant • % fecal waste treated at FSTP/STP • Quality of sewage treatment/ FS treatment • % of septic tank/pits emptied annually • % of toilets connected to twin pits/ eco toilet that treat in-situ	• % of treated water reuse for various purpose • % treated sludge reuse

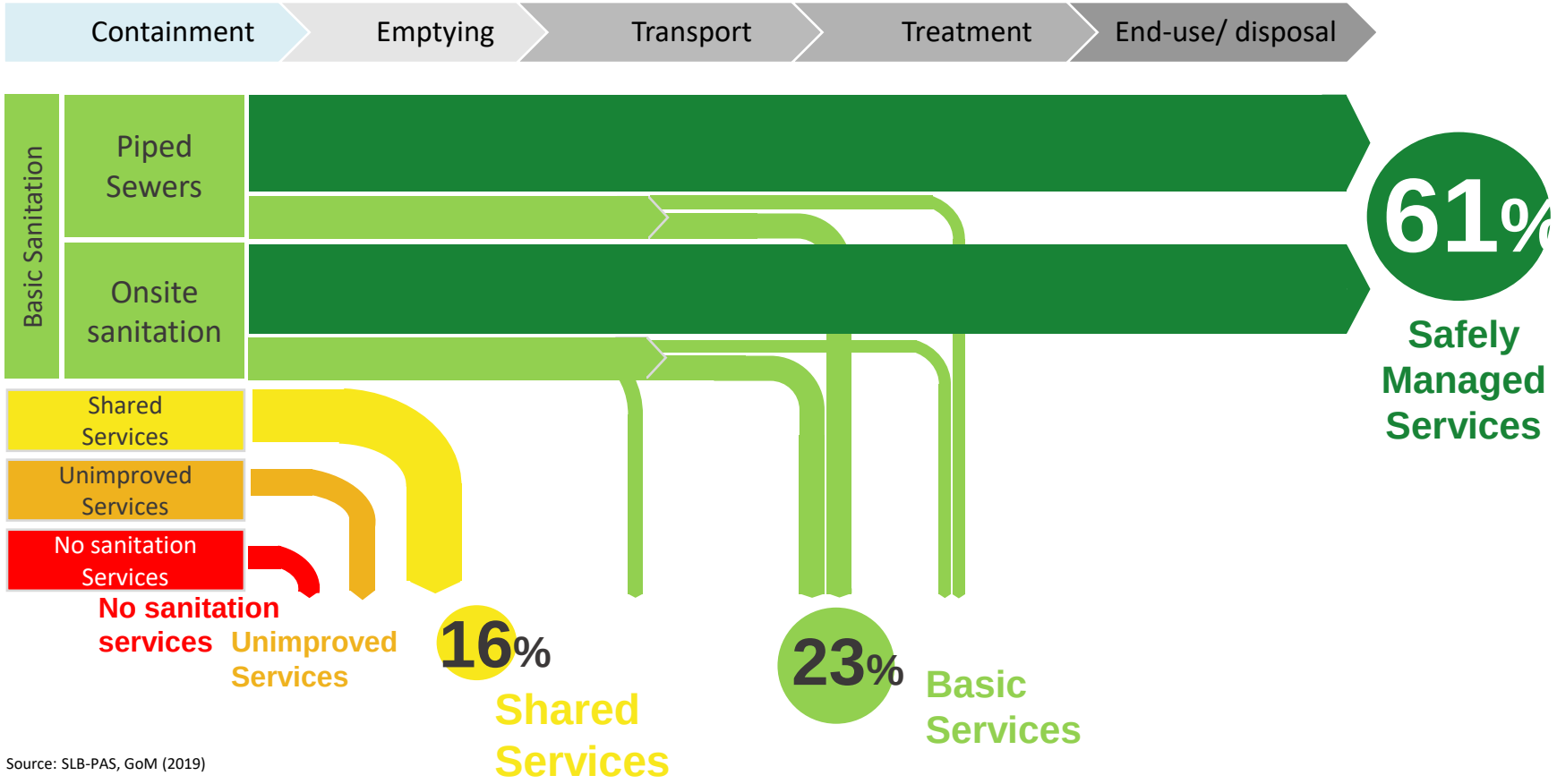
Indicators across the sanitation service chain helps city to identify improvement areas to achieve safely managed sanitation SDG 6.2



Estimation of safely managed sanitation:

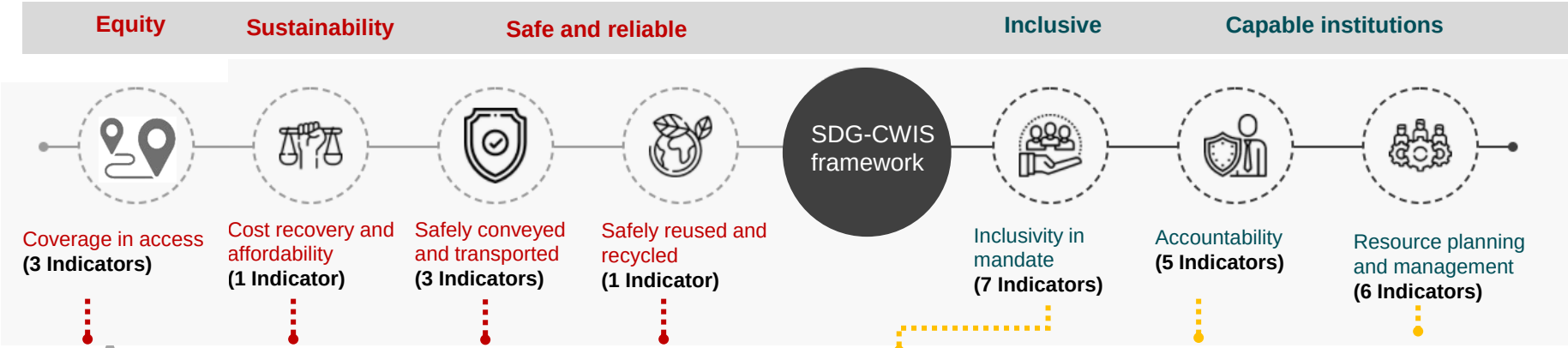
- Sewerage safely conveyed and treated
- Fecal sludge in single pit or septic tank connected to sewer / soak pit safely emptied and treated
- Fecal sludge in single pit or septic tank connected to sewer / soak pit safely contained (not emptied)
- Other improved systems e.g. twin pits / eco toilets

Example: Use of data for generating sanitation excreta flow diagram



Source: SLB-PAS, GoM (2019)

Indicative indicator framework to capture SDG-CWIS index at city level



1. Coverage of individual household toilet in vulnerable areas Vs city
2. Coverage of households with adequate sanitation system

1. Extent of cost recovery in sanitation service delivery

1. Collection efficiency of sanitation system
2. Adequacy of treatment capacity of sanitation system
3. Quality of treatment of sanitation system

1. Extent of reuse and recycling in sanitation system

1. City with a policy to provide individual WSS services to vulnerable areas
2. City with earmark funds for the poor in budget
3. City with specific department or cell responsible for service provisions in vulnerable areas
4. % of funds allocated in the budget for pro poor activities
5. % Expenditure for service provision in slums(if any)
6. City has mandate for gender budgeting

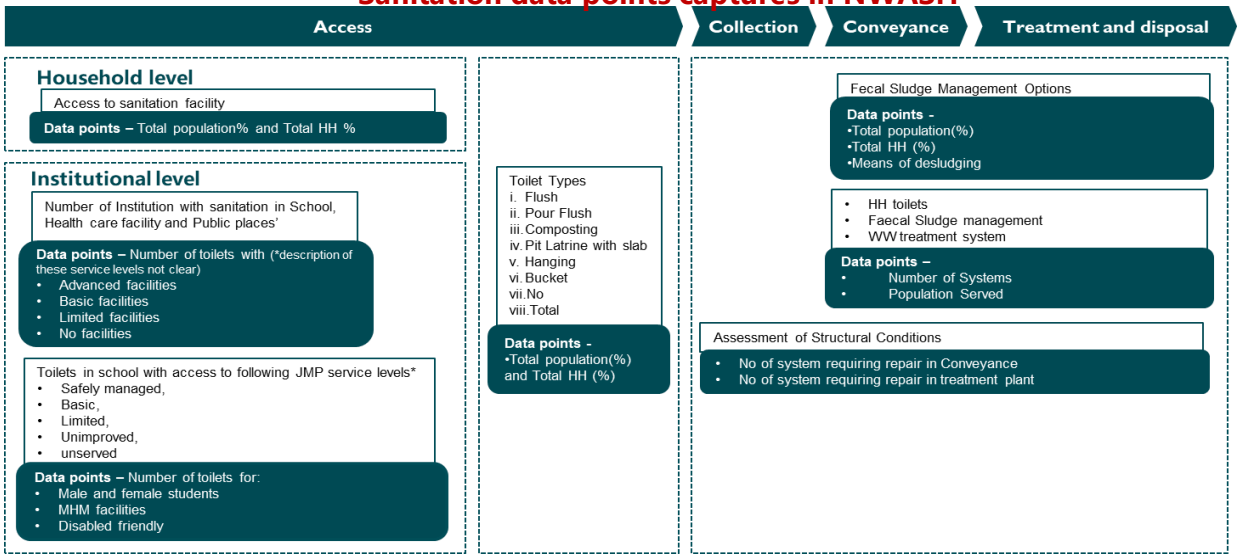
1. Efficiency in redressal of customer complaints
2. Efficiency in collection against arrears of sewerage charges/septage charges
3. Efficiency in collection of sewerage and septage charges
4. Efficiency in collection against arrears of property tax
5. Efficiency in collection of property tax

1. Recruited to sanctioned staff for sanitation
2. City has mechanisms to facilitate collection of bills
3. City has Official website
4. PSP in construction/ operation/maintenance of sanitation infrastructure
5. Private Septage machines licensed by ULB
6. Involvement of external agencies (like NGOs, CBOs, private agencies) in service provision to slums

Information required for key aspects of sanitation service chain

- **NWASH captures 10% household sample data for sanitation, mainly access to toilet and its containment related information**
- **Ideally, sanitation access and containment related data points can be integrated with water supply**
- **A rapid assessment survey to create the baseline information on citywide desludging operations and treatment facilities for sanitation as this information does not exist**

Sanitation data points captures in NWASH



NWASH to capture data points beyond access and coverage, for e.g:

- No. of septic tanks connected to soak pit for effluent disposal
- Desludging service provider details and means of operation, disposal of waste and financing
- No. of septic tanks / single pits cleaned annually
- Total volume of septage collected by septage sucking machines (cum / year)
- Volume of septage collected and treated at treatment plant
- Volume of sewage actually collected through piped sewer and treated at the Sewage Treatment Plant
- Treatment plant capacity/ technology/ performance/ quality of treatment perform / management model etc.

Example: Checklist for Citywide Assessment of Sanitation Service Delivery, PAS India

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT

SANITATION AND DRAINAGE

S.No	Description of data elements	Unit	FY 2020-21
1	COVERAGE OF TOILETS	%	
	Sanitation Coverage		
1.1	Total Number of Properties in the City	Number	
1.2	Properties with toilets	Number	
1.3	Households dependent on functional community toilets	Number	
	Total Number of Properties with access to toilets	Number	
2	COVERAGE OF SEWAGE NETWORK SERVICES	%	
2.1	Total Number of Properties in the City	Number	
2.2	Properties with sewer connections	Number	
2.3	Properties with onsite sanitary disposal	Number	
	COLLECTION EFFICIENCY OF SEWAGE NETWORK	%	
	Waste Water Production - Volume of Water Consumed and Waste Water Generated	***Unit***	
3.1	Volume of water consumed and billed from Domestic Connections	MLD	
3.2	Volume of water consumed and billed from Bulk supply - Apartments	MLD	
3.3	Volume of water consumed and billed from Bulk supply - Layouts/Societies	MLD	
3.4	Volume of water consumed and billed from Non domestic Connections	MLD	
3.5	Volume of water consumed (both billed and unbilled) from Public taps	MLD	
3.6	Volume of water from free supplies (other connections)	MLD	
3.7	Volume of water consumed and billed from any other ULB sources	MLD	
3.8	Volume of water consumed from any Non ULB water sources	MLD	
3.9	Total Water Consumption (billed and unbilled) from ULB and Non ULB sources)	MLD	
3.10	Volume of waste water generated from Domestic Water Consumption	MLD	
3.11	Volume of waste water generated from Bulk Supply - Apartments	MLD	
3.12	Volume of waste water generated from Bulk Supply - Layouts/Societies	MLD	
3.13	Volume of waste water generated from Non Domestic Water Consumption	MLD	
3.14	Volume of waste water generated from Public Tap Water Consumption	MLD	
3.15	Volume of waste water generated from free supplies (other connections)	MLD	
3.16	Volume of waste water generated from other ULB source water consumption	MLD	
3.17	Volume of waste water generated from Non ULB source Water consumption	MLD	
	Total Waste Water Generated	MLD	
	Waste Water Collection and Treatment	***Unit***	
3.18	Volume of sewage actually treated at the Primary Treatment Plant	MLD	
3.19	Volume of sewage actually treated at Secondary Treatment Plant	MLD	
	Total Volume of Waste Water collected and Treated at Sewage Treatment Plants	MLD	

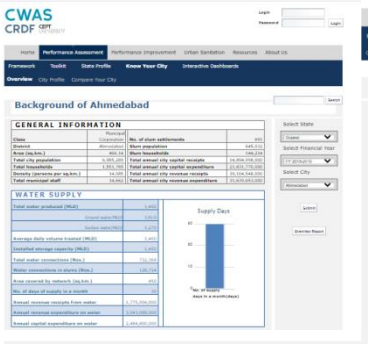
4	ADEQUACY OF SEWAGE TREATMENT CAPACITY	%	
4.1	Installed Capacity of Primary Treatment Plant	MLD	
4.2	Installed Capacity of Secondary Treatment Plant	MLD	
4.3	Total Installed Capacity (Primary/Secondary Treatment)	MLD	
4.4	Total Waste Water Generated	MLD	
5	EXTENT OF REUSE AND RECYCLING OF SEWAGE	%	
5.1	Volume of sewage actually treated at Secondary Treatment Plant	MLD	
5.2	Volume of treated waste water reused after Secondary Treatment	MLD	
6	QUALITY OF SEWAGE TREATMENT	%	
	Discharge Compliance after Secondary Treatment of Sewage	***Unit***	
6.1	Number of Treated Effluent Samples Tested in a year	Number	
6.2	Number of Treated Effluent Samples Passed in a year	Number	
7	EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS	%	
	Consumer Services	***Unit***	
7.1	Sewage related Complaints received during the year	Number	
7.2	Sewage related Complaints resolved within 24 hours during the year	Number	
8	EXTENT OF COST RECOVERY IN SEWAGE MANAGEMENT	%	
	Financial Information - Annual Operating Expenses	***Unit***	
8.1	Regular Staff and Administration	Rs. Lakhs	
8.2	Outsourced /Contract Staff Costs	Rs. Lakhs	
8.3	Electricity Charges /Fuel Costs	Rs. Lakhs	
8.4	Chemicals Costs	Rs. Lakhs	
8.5	Repairs/Maintenance Costs	Rs. Lakhs	
8.6	Contractor Costs for O&M	Rs. Lakhs	
8.7	Others (Specify)	Rs. Lakhs	
	Total Annual Operating Expenses	Rs. Lakhs	
	Financial Information - Annual Operating Revenues	***Unit***	
8.8	Arrears at the beginning of current year	Rs. Lakhs	
8.9	Revenue demand from user charges - sewerage only	Rs. Lakhs	
8.10	Revenue demand from tax/cess - sewerage only	Rs. Lakhs	
8.11	Revenue demand from other sources (eg. connection costs/septage emptying charges/donations etc.)	Rs. Lakhs	
	Total Revenue Demand of current year	Rs. Lakhs	

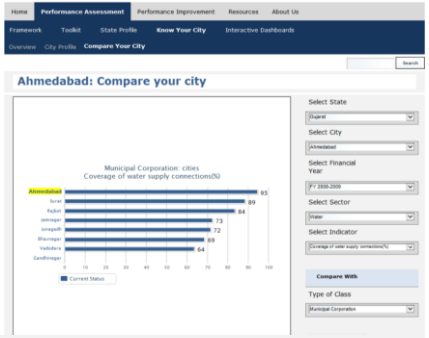
2. Measures to encourage data coverage backed by incentives mechanism to institutionalize sanitation monitoring system at local level

- Despite the significant efforts by NWASH, only 24% local government has completed the data collection in last three years. This suggests the need for incentivizing local government for use of M&E framework for regular reporting the service level.
- **Explore appropriate incentives for local governments for regular WASH monitoring and reporting for e.g. 10% intergovernmental transfers as performance grants linked to monitoring WASH at local level. Service level benchmark for water and sanitation in India have been sustained over 12 years through linking with performance grants recommended by Finance Commissions of India.**
- **Share of IGT from GoN to local government is NPR 283 billion for 2021-22, which is ten times the budget of MoWS i.e. NPR 25 billion.** Need to explore possible fiscal incentives for local government for institutionalise monitoring at local level in consultation with MoWS and MoF.
- Explore **linking water and sanitation monitoring and tracking with property tax assessment/municipal taxation** to ensure that that data is captured along with property tax data

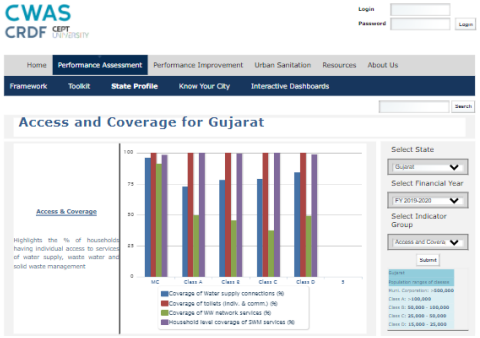
3. Need to report progress at local, provincial and national levels

- NWASH portal should have a robust dashboard to showcase the key result at city/ province and national level.
- Dashboard should showcase – City/province level WASH profile, track performance over time and compare performance with peers, review the year wise improvement of the city, thematic performance of district/provinces, interactive dashboard design
- Examples from Performance Assessment System in India

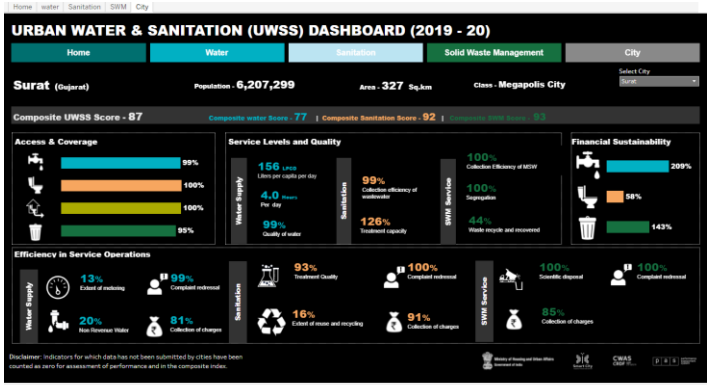




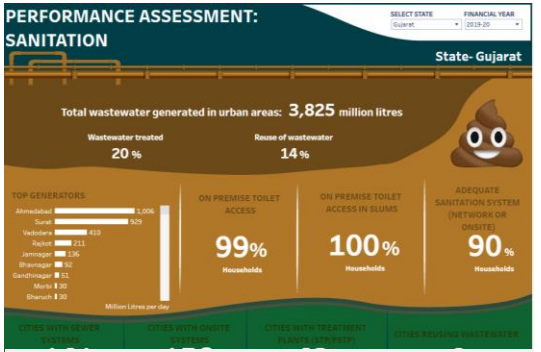
Know your ULB and Compare Your ULB helps each ULB to understand the basic details and KPIs and allows to compare itself with another ULB based on its respective class or state.



State can assess thematic performance of Access, Financial sustainability,equity,efficiency and quality of service delivery at state level



City Dashboard using KPIs



Customized dashboard to view state and ULB level analysis

Potential Phase-II Actions for discussion . . .

1. **Support development of a framework for Key Performance Indicators for capturing progress on Citywide Inclusive Sanitation (CWIS)**

2. **Testing the CWIS KPI framework in selected municipalities in Nepal**

3. **Support DWSSM in development of a roadmap for a roll out of a nationally agreed CWIS Performance Indicator Framework**

Thank you

CWAS CENTER FOR WATER AND SANITATION | CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION | CEPT UNIVERSITY

About us

The Center for Water and Sanitation at CEPT University carries out various activities – action research, training, advocacy to enable state and local governments to improve delivery of services.

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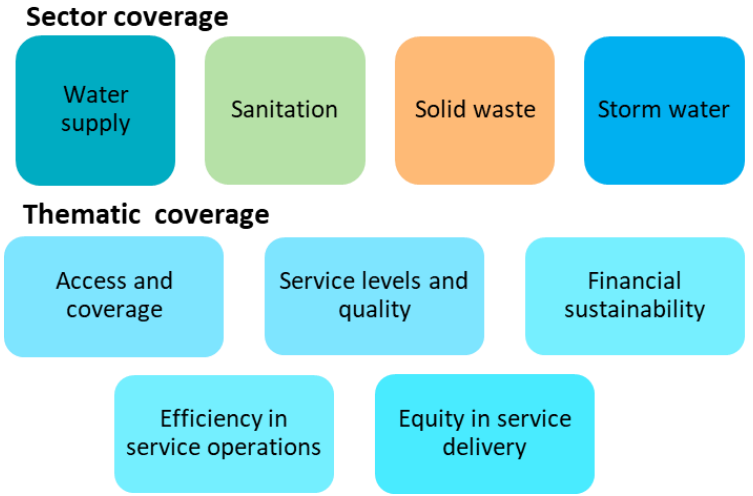
Performance Assessment System (PAS) framework in India

- **Government of India (GoI) launched Service Level Benchmarks (SLBs)** for tracking performance of Water and Sanitation in India. SLBs were finalized through country level consultations with sector partners and pilots in 28 cities
- **GoI recognized PAS as digital platform for self assessment of city performance** with inbuilt validation checks to measure the urban water supply and sanitation service delivery
- **Framework suited to local context** - Focus on access and coverage, efficiency, equity, reliability and on-site sanitation
- **Started with 400+ cities** in 2008-09 and now **scaled up to 1000+ cities** across India
- **Sustained over 12 years -** linking with **performance grants recommended by** Finance Commissions of India



https://cwas.org.in/theme/monitoring

Source: https://cwas.org.in/theme/monitoring/frameworks-and-toolkits

Service Performance indicators -Service Level Benchmarks, India

Themes	Water supply services	Sanitation and storm water drainage	Solid waste management
Access and coverage	▪ Coverage of water supply connections (100%)	▪ Coverage of toilets (100%) ▪ Coverage of sewage network services (100%) ▪ Coverage of adequate sanitation* ▪ Coverage of storm water drainage network (100%)	▪ Household level coverage of solid waste management services (100%)
Equity	▪ Coverage of WS connections in slums	▪ Coverage of individual toilets in slums ▪ Coverage of sewerage connections in slums	▪ Coverage of D to D collection in slums
Service levels and quality	▪ Per capita supply of water (135) ▪ Continuity of water supply (24 hrs) ▪ Quality of water supplied (100%)	▪ Collection efficiency of the sewage network (100%) ▪ Adequacy of sewage treatment capacity (100%) ▪ Collection efficiency of sanitation system* ▪ Adequacy of sanitation treatment capacity* ▪ Incidence of water logging/ flooding (zero)	▪ Efficiency of collection of municipal solid waste (100%) ▪ Extent of segregation (100%) ▪ Extent of municipal solid waste recovered (80%)
Efficiency in service operation	▪ Extent of Non- Revenue Water (NRW) (20%) ▪ Extent of metering (100%) ▪ Efficiency in redressal of customer complains (80%)	▪ Quality of sewage treatment (100%) ▪ Extent of reuse and recycling of sewage (20%) ▪ Quality of treatment of sanitation system* ▪ Extent of reuse and recycling in sanitation* ▪ Efficiency in redressal of customer complains (80%)	▪ Extent of scientific disposal of municipal solid waste (100%) ▪ Efficiency in redressal of customer complains (80%)
Financial sustainability	▪ Cost recovery in water supply (100%) ▪ Efficiency in collection of water supply related charges (90%)	▪ Extent of cost recovery in sewage management (100%) ▪ Efficiency in collection of sewage charges (90%)	▪ Extent of cost recovery in SWM (100%) ▪ Efficiency in collection of SWM charges (90%)

*SAN Benchmarks - Revised SLB indicators that captures performance of onsite sanitation along with conventional sewerage system